UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,982	05/03/2001	Ted E. Dunning	22227-05479	8782

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EXAMINER
WONG, LESLIE

ART UNIT	PAPER NUMBER
2177	

DATE MAILED: 05/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/848,982	DUNNING ET AL.
	Examiner	Art Unit
	Leslie Wong	2177

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 January 2003* .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-35* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All b)☐ Some * c)☐ None of:

         1.☐ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)   4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5) ☐ Notice of Informal Patent Application (PTO-152)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>9</u> .   6) ☐ Other:

DETAILED ACTION

Response to Amendment

1.   Receipt of Applicant's Amendment, filed 30 January 2003, is acknowledged.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.   Claims 1-35 are rejected under 35 U.S.C. 102(b) as being anticipated by

Damashek (U.S. Patent 5,418,951).

Regarding claims 1, 12, 23, and 34, **Damashek** teaches a computer-

implemented method of text equivalencing from a string of characters 3 comprising:

a).   modifying the string of characters using a predetermined set of heuristics

(col. 4, line 64 – col. 5, line 5; col. 8, line 64 col. 9, line 2);

b).   comparing the modified string with a known string of characters in order

to locate a match (col. 4, lines 10-60);

c).   responsive to not finding a match, forming a plurality of sub-strings of

characters from the string of characters (col. 3, lines 21-24; col. 4, lines 24-27); and

d).   using an information retrieval technique on the sub-strings of characters

to determine a known string of characters equivalent to the string of characters (col. 3,

lines 22-31 and col. 4, lines 10-60).

Regarding claims 2, 13, 24, and 35, **Damashek** further teaches a step wherein

the information retrieval technique further comprises:

a).   weighting the sub-strings (col. 5, lines 31);

b).   scoring the known string of characters (col. 8, lines 51-56); and

c).   retrieving information associated with the known string of characters with

the highest score (col. 9, lines 64-66).

Regarding claims 3, 14, and 25, **Damashek** further teaches a step comprising,

responsive to the highest score being greater than a first threshold, automatically

accepting the known string of characters as an exact match (col. 8, lines 51-63).

Regarding claims 4, 15, and 26, **Damashek** further teaches a step comprising,

responsive to the highest score being less than a second threshold and greater than a

first threshold, presenting the known string of characters to a user for manual

confirmation (col. 9, lines 12-14; col. 10. 45-49).

Regarding claims 5, 16, and 27, **Damashek** further teaches a step comprising,

responsive to the highest score being less than a second threshold and greater than a

third threshold, presenting the known string of characters to a user to select the

equivalent string of characters (col. 9, lines 12-14; col. 10. 45-49).

Regarding claims 6, 17, and 28, **Damashek** further teaches a step wherein the

sub-strings of characters are 3-grams (col. 3, lines 21-24; col. 4, lines 24-27).

Regarding claims 7, 18, and 29, **Damashek** further teaches a step wherein the

string of characters is selected from the group consisting of a song title, a song artist, an

album name, a book title, an author's name, a book publisher, a genetic sequence, and

a computer program (col. 9, lines 35-37).

Regarding claims 8, 19, and 30, **Damashek** further teaches a step wherein the

predetermined set of heuristics comprises removing whitespace from the string of

characters (col. 4, line 64 – col. 5, line 5).

Regarding claims 9, 20, and 31, **Damashek** further teaches a step wherein the

predetermined set of heuristics comprises removing a portion of the string of characters

(col. 8, line 64 – col. 9, line 10).

Regarding claims 10, 21, and 32, **Damashek** further teaches a step wherein the

predetermined set of heuristics comprises replacing a symbol in the string of characters

with an alternate representation for the symbol (col. 4, line 64 – col. 5, line 5).

Regarding claims 11, 22, and 33, **Damashek** further teaches a step wherein

storing an indication (i.e., similarity score) that the string of characters is the equivalent

of the known string of characters (col. 8, lines 51-56).

Response to Argument

4.   Applicant's arguments filed 30 January 2003 have been fully considered but they

are not persuasive.

Applicants argue that Damashek does not teach or suggest a step of finding a

match for a character string, or attempting to find a string that is equivalent to a query

string. In response to the preceding arguments, the Examiner respectfully submits that

Damashek teaches finding a match for a character string by comparing it with known

text (i.e., reference documents) (col. 5, lines 10-11). The reference documents are

parsed into sub-strings (n-grams) for each reference document. Weights are assigned

to each unique sub-string (i.e., n-gram). The weight is determined by the relative

frequency of occurrence of that n-gram in the reference document (col. 5, 24-30). The

string that the system attempts to find a match for is also parsed into a list of unique n-

grams and weight is also assigned to each n-gram. The string is then compared to

each of the known strings by scoring the string against the know strings (i.e., reference

document). The score for the string with respect to the known strings indicates the

degree of similarity between the two string (col. 5, lines 54-60). Applicants also remark

that Damashek's parsing text into n-grams for the purpose of categorizing documents

according to language or topic and that Damashek does not form sub-string in response

to not finding a match as claimed. It is submitted that Damashek uses the scores of the

strings to determine the similarity between the two strings (i.e., a match is found) in

order to place the unidentified string into its proper category. Therefore, the Examiner

submits that Damashek teaches a step of finding a match for a character string as

claimed.

Applicants further allege that there is no mention in Damashek any technique in

forming sub-strings as claimed. Additionally, Damashek does not disclose forming sub-

string in response to not finding a match. In response to the preceding arguments, the

Examiner respectfully submits Damashek teaches forming sub-strings for both know

text and string to be matched (i.e., unidentified string). Furthermore, Damashek

discloses user assigns threshold scores in order to determine the similarity of the two

strings (col. 5, lines 24-39 and lines 54-60 and et seq.). Applicant's invention ultimately

has to carry out string decomposition in order to find a match. Damashek, on the other

hand, forms sub-strings from the known text and the string to be matched regardless.

Therefore, it is submitted that Damashek addresses the limitation as claimed.

Applicants also point out that Damashek's discussion of the limitation: "using an

information retrieval technique on the sub-strings of characters to determine a know

string of characters equivalent to the string of characters" is entirely unrelated to the

above recited limitation. In response to the preceding arguments, the Examiner respectfully submits that it is totally relevant to the present invention as Applicant's Specification pages 7, paragraph 0021 to page 15, paragraph 0042 describes in detail such information retrieval technique.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leslie Wong whose telephone number is (703) 305-3018. The examiner can normally be reached on Monday to Friday 9:30am - 6:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E Breene can be reached on (703) 305-9790. The fax phone numbers

for the organization where this application or proceeding is assigned are (703) 746-7239

for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is (703) 305-

3900.

Leslie Wong
Patent Examiner
Art Unit 2177

lw
May 9, 2003

JEAN R. HOMERE
PRIMARY EXAMINER